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U.S. DEPARTMENT OF AGRICULTURE

The Cotton Marketing Problem

(This statement was prepared by a special committee and approved by the Cotton Council of the Department of Agriculture.)

The United States Department of Agriculture desires on this occasion to have the representatives of the cotton states discuss the cotton marketing problem in which we are mutually interested, with the hope that suggestions will be offered which will increase the usefulness of its efforts.

We recognize that the marketing problem is as important as the production problem. The changes of method of buying on the part of European consumers have made necessary a readjustment in the methods of handling and financing cotton in this country. This has stimulated the development of cooperative, as well as independent, enterprises looking toward the orderly marketing of cotton throughout the year.

The Department recognizes the importance of the cooperative movements which have arisen to meet the emergency. It is making a careful study of these movements and wants to be helpful in making them continuously successful. We believe that the cooperative marketing of cotton may effect economies in handling, not obtainable by the individual producer, tend to stabilize the marketing and insure the grower adequate recognition for the intrinsic value of his product.

The work which the Department is doing in administering the U. S. Warehouse Act and the Cotton Futures Act under which it regulates the future exchanges and has standardized the classification of cotton, has had a direct bearing on the stabilization of cotton marketing in this country and has facilitated the financing of the cotton crop.





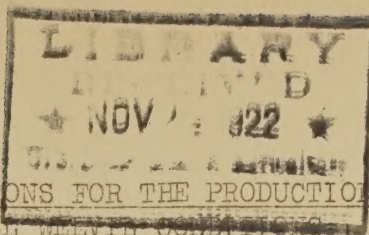
Appreciating the importance of having more fundamental information regarding the basis of better marketing, the Department is now engaged in several extensive pieces of research work. Among the more important of these are:

Studies are being made of every phase of the present system of cotton handling and marketing with a view to publishing a bulletin which will help in giving the farmers a clearer knowledge of what happens to cotton from the time it leaves the farm until it reaches the consumer. The legal phases of cooperative associations have been compiled in Bulletin No. 1106, issued in October of this year. Economic studies of successful cooperative organizations, such as the American Cranberry Exchange, the California Fruit Growers Exchange, etc., have been made and manuscripts for bulletins on these subjects are practically completed. Special studies are being made of cooperation in Russia and in Denmark. A special study is being made of the experiences of one hundred associations in the United States for the purpose of discovering the causes of success and the causes of failure in cooperative undertakings.

Other more general problems of cotton marketing are regarded as of fundamental importance and investigations of these are under way. Especially should be noted the investigations of world markets, of the relation of grade to spinning value, and of the relation of character and staple to spinning quality and to prospective manufacturing demand.







November 11, 1922.

SUMMARY OF RECOMMENDATIONS FOR THE PRODUCTION OF COTTON  
UNDER BOLL WEEVIL CONDITIONS

(This statement was prepared by a special committee and approved by the Cotton Council of the Department of Agriculture, and represents a summary of the Department's attitude at present.)

Under boll weevil conditions, the prime necessity is to mature the largest possible crop of cotton in the shortest possible time. It is, in a sense, a race between the farmer and the boll weevil. To accomplish this end, the Department makes the following recommendations:

- I. Select for cotton planting well-drained, fertile soils - if possible, only land capable of producing, with the use of a reasonable amount of fertilizer, at least one-half a bale per acre should be planted to cotton.
- II. Prepare a good seed bed and fertilize liberally. Whatever fertilizer is used should usually be distributed in the soil before planting.
- III. Plant good seed of an improved, early-maturing variety, recommended for the locality by the State Experiment Station and the United States Department of Agriculture. Plant as soon as danger from frost and cold is past and the ground is sufficiently warm to insure rapid germination and vigorous growth. The planting of seed of a single variety, as nearly simultaneously as possible, by entire communities and counties, is strongly urged.
- IV. The importance of securing and maintaining a full stand cannot be over-emphasized. The best width of rows and spacing of cotton in the row may vary with soil and climatic conditions. Rows should be only wide enough to allow proper cultivation and cotton in the drill should uniformly be spaced closer than under non boll weevil conditions. Cotton in 3-foot rows, spaced two stalks to the hill, a hoe width apart, has given high yields in spacing tests in the Mississippi Delta. This close spacing may prove undesirable under some conditions, but spacing 8 to 12 inches in the drill, with two stalks to the hill, will probably give best results throughout the entire region of severe weevil infestation. To be sure of securing a full stand, the liberal use of planting seed is advised.
- V. Chop to the desired stand as soon as safe from cold or other adverse conditions. Give early and frequent cultivation and continue same until fairly late in the season - or at least two or three weeks beyond the usual "laying-by" time. Great care should be taken, particularly in the later part of the season, to cultivate shallow and not too close to the row. Careless or deep cultivation at this period may mean disaster. Careful, late, shallow cultivation is very strongly recommended.







- VI. If weevils are numerous at the time cotton is just beginning to square, destroy all possible adult weevils, either by hand picking or poisoning, as may be most practicable. It is probable that only at this stage the molasses and calcium arsenate mixture can be used effectively. Then squaring begins, especially if not equipped to poison by dusting, pick and destroy all punctured squares from the ground and the stalks once every week or ten days for a period of about 30 days. When, if weevils are still numerous or as much as 10 to 15 per cent of squares are infested and other conditions warrant, apply the calcium arsenate dry dust poison. In making applications of the dust poison, always carefully follow directions of the United States Department of Agriculture and the college of agriculture of your own state.
- VII. Pick cotton in the fall as rapidly as possible and immediately kill all cotton stalks, preferably by cutting and plowing under. The object is to destroy the food supply and breeding places of the weevil before the hibernation period. To be effective, this must be done as long as possible before the first killing frost. A very light infestation, or even practical immunity from weevil damage until late in the following season, could be insured if all cotton growers in entire communities or counties would, when conditions permit, cooperate to destroy all cotton stalks at least two or three weeks before frost.
- VIII. Since the weevil will hibernate successfully not only in wasteland but in any trash or rubbish, it is very good practice to burn over, or clean up any such situations around the cotton fields during the winter, especially the fence rows, terraces, ditch banks and ravines.

By the Committee.

Chairman

K. F. Kellerman, Acting Chief  
for Dr. W. A. Taylor, Chief  
For Bureau of Plant Industry.

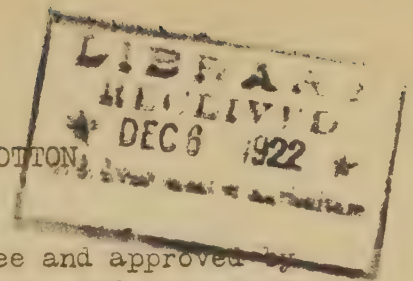
L. O. Howard  
For Bureau of Entomology.

J. A. Evans  
For Office of Extension Work.





IMPROVING THE QUALITY OF AMERICAN COTTON



(This statement was prepared by a special committee and approved by the Cotton Council of the Department of Agriculture, and represents a summary of the Department's attitude at present.)

The growing of the longer staples being limited to small areas each with its special and local problems, and there being no economic justification for growing in the U. S. of cotton of less than  $7/8$  of an inch, this discussion is devoted to the encouragement of production of cotton above  $7/8$  and up to  $1-1/8$  inches.

It is the consensus of opinion of those best informed as to the cotton crop that the quality of that crop has deteriorated in many localities in recent years. This decline has taken place despite the efforts of many agencies; private, state and national.

The production of premium types of cotton is not restricted to the better soils of the Cotton Belt, though the same variety of cotton grown on better soils gives larger yields, longer staple, and better fiber than when grown on poor soils.

Improvement in the quality of the American cotton crop becomes more essential as the standard of living of cotton producers rises, and as the competition of foreign cotton producing regions increases.

The most serious obstacle to improvement in the quality of the cotton crop is that too many kinds of cotton are planted in the same locality. The natural result of this condition is that the different kinds are quickly blended into a mongrel breed of greatly inferior quality, leading to reduction in value.

The mongrelizing of the cotton is caused by cross pollination between plants in adjacent fields, by mixing of the seed from different fields in public gins, and especially by the general use of "gin-run" seed for planting.

These causes of the deterioration in quality must be checked before the efforts of cotton breeders and seed growers can become effective.

The quality of the present crop of Upland cotton can be improved and the improvement maintained only through the production of adequate supplies of pure planting seed of superior varieties. Varieties do not deteriorate or run out if the seed is kept pure.

The establishment of centers of pure seed production is essential. This can be facilitated through the organization of single-variety cotton





communities with the gin as the community center, since the greatest deterioration in cotton varieties results through mixture of seed in public gins.

Both from the standpoint of production and marketing, there are material advantages in restricting production to a small number of varieties. At present pure seed supplies of any one variety widely adapted to the main Cotton Belt are inadequate. For several years, therefore, the production of all of the high-grade varieties that experience has shown to give premium cottons and to be satisfactory in yield and adaptable to the region should be encouraged through the development of pure seed centers.

We have assembled, and present herewith, available data regarding recommendations by State Institutions as to the best cotton varieties for the different sections of the Belt. We endorse these recommendations and suggest that Federal cooperation with the states should be directed toward aiding in the establishment of pure-variety seed-production areas.

We recommend further that special encouragement should be given to increased production of planting seed of Cleveland, Lone Star and Acala and varieties similar to these.

#### Acala Cotton.

Acala cotton is extensively grown in Texas, Arkansas, and Oklahoma. It is now the leading variety in Oklahoma and from present indications it will be the only variety grown in that state within a few years.

In the eastern states of North Carolina and Alabama, it has been grown successfully on a commercial scale, and its adaptability to other sections of the eastern Belt has been demonstrated in a number of variety tests.

The Acala cotton is an early maturing, big boll, storm-proof type of Mexican origin. It produces about 35% lint, with fiber 1-1/16" to 1-3/16" in length. This fiber has become very popular with cotton spinners because of its fine character and extreme strength.

Extensive and well directed efforts by breeders and seed growers to maintain the quality of Acala cotton, have made available a relatively large supply of pure seed of this variety.





STATE EXPERIMENT STATIONS

VARIETIES OF COTTON RECOMMENDED FOR SPECIFIC CONDITIONS OR REGIONS,  
OR INDICATED AS OUTSTANDING.

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A L A B A M A

General

Cook strains

Cleveland strains

Auburn annual tests - 1910-1919

Alabama Press Bul.103 - Jan.10, 1921.

Butler, Lowndes, Lee, Macon, Pike, and Tallapoosa Counties.

Tri-Cook

Covington Toole

Cook 307-6

Dillon

Wilt Resistant varieties, 1911-15

Alabama Bul. 189 - April, 1916.

Russell, Macon, Crenshaw, and Henry Counties.

Cook 307-6

Tri-Cook

Toole

Lewis No. 63

Hybrid 139

High yielding wilt resistant varieties.

Ala. Sta. Circ.44 - 1921, pp. 16,17.

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F L O R I D A

Highest Yielders

Cook

Lone Star

1917

Cook

Trice

Highest Yielders

1918

Florida Ext. Bul. 15, - February 1919.

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G E O R G I A

Cotton variety tests, 1915-1919,

Ga. Col. Bul. 200, April, 1922.

For North Georgia and wilt-free land in South Georgia.

College No. 1

Cleveland Strains

Hooper

Trice

Sunbeam

Cook

Texas Bur





G E O R G I A (Continued)

South Georgia - Wilt Resistant:

Petty Toole  
Covington Toole  
Council Toole  
Lewis No. 63

Long Staple:

Express

Wilt-Free Land:

Cleveland  
Cook  
College No. 1  
Texas Bur

Cotton Varieties

Ga.Sta.Bul. 136, December, 1920.

Wilt-Infested Land:

Lewis No. 63  
Council Toole  
Covington Toole  
Dixie-Triumph  
Dixie-Cook

Long Staple:

Express

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M I S S I S S I P P I

General:

Thin hill land - Cleveland and Miller  
Rich hill land, wilt-free - Trice  
Delta and valley land, wilt-free, heavy weevil infestation:  
Express  
Trice  
Foster  
Valley land, light weevil and light wilt infestation:  
Cleveland  
Express  
Columbia  
Heavy wilt, few or no weevil:  
Tri-Cook  
Lewis No. 63

Miss.Sta. Bul. 137, 1920.

Delta:

Foster  
Express  
Webber

Miss.Sta.Circ.42, 1921.



MISSISSIPPI (Continued)

North Mississippi (Holly Springs) Brown Loam Soils:

Hill lands - Cleveland Strains

Miller

Triumph

Cook

Valley lands - Cleveland

Selections of Trice

Selections of Express

Miss. Sta. Bul. 192, 193; 1920.

South Mississippi:

Coastal Plains region (Sandy loams) - Trice

Cotton Culture not advised in the two tiers of counties next to Gulf.

Miss. Sta. Bul. 138, 196; 1920.

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NORTH CAROLINA

REGIONS:

Coastal Plain - Southeastern Piedmont - Cleveland

Piedmont - Coastal Plain - Mexican Big Boll No. 6.

Coastal Plain - Mexican Big Boll, Nos. 14 and 18.

Additional: - Edgecombe-Cook No. 38

Lone Star

N.C. Ext. Circ. No. 120, Dec. 1921.

General for Boll Weevil Conditions:

Cleveland

Mexican Big Boll

Edgecombe-Cook

Express

N.C. 44th Ann. Rpt. June, 1921, p. 34.

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SOUTH CAROLINA

General - Short Staple:

Cleveland - Wilt-free land

Dixie-Triumph - Wilt-infested land

Pee Dee Substation:

Cleveland - Wilt-free land

Dixie-Cook - Wilt-infested land

Dixie-Triumph - Wilt-infested land

S.C. 34th Ann. Rpt., Dec., 1921 - p. 7 - p. 46.

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TENNESSEE

West Tennessee:

Trice

Cleveland

Tenn. Sta. Bul. 109, 1914.

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VIRGINIA

Trice

King

Simpkins

Nansemond Co. Exp. Sta. - p. 16

Virginia Exp. Sta. Rpt. 1913-19





STATE EXPERIMENT STATIONS  
STATES WEST OF MISSISSIPPI RIVER  
VARIETIES OF COTTON RECOMMENDED FOR SPECIFIC CONDITIONS OR REGIONS,  
OR INDICATED AS OUTSTANDING.

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AR K A N S A S

Northern limit of cotton section:

Trice

Hills south of Trice area and on some delta land:

Triumph

Better hill land south of Arkansas river and on bottoms for bender cotton:

Heavy soils - Lone Star

Light soils - Rowden

Central and southern Arkansas on better hills and lighter bottoms:

Acala

Bottoms and other alluvial sections:

Express

Webber strains

Ark. Bul. 181, June 30, 1922, p.22.

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L O U I S I A N A

Cleveland strains

Tri-Cook

Dixie-Triumph

Express

Webber strains

Highest Yields

N.La. Sta., 1921 - La. Sta. 33d. Ann. Rpt. p. 12.

Regions:

Southern, southeastern, and central parts of State and  
alluvial land in northeastern part -

King, Simpkins, Moneymaker, Toole, Broadwell

Upper Red River Valley - Brown

Uplands of North Louisiana - Triumph

La. Ext. Circ. 18, 1916.

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M I S S O U R I

Mebane

Cleveland

Mo. Bul. 172, pp. 26-31.





O K L A H O M A

General:

Triumph  
Acala  
Rowden  
Lone Star  
Triumph 44

Okla. Sta. 27th Ann. Rpt. 1918, p. 15.  
Okla. Sta. 30th Ann. Rpt. 1921, p. 10.

T E X A S

General:

Mebane  
Lone Star  
Truitt  
Bennett

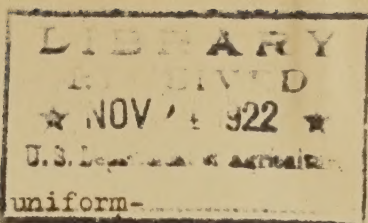
Rowden  
Belton  
Acala  
Kasch

Texas Sta. 33d Ann. Rpt., 1920, pp. 39, 40.

Substations:

- Beeville 1. Mebane, King, Rowden, Lone Star - Bul. 214.  
Troup 2. Mebane - Bul. 209.  
Angleton 3. Mebane, Lone Star, Kasch, Acala - 33d Rpt., p. 51  
Beaumont 4. Bank Account, Mebane, Mortgage Lifter, Union Big Boll, Cleveland -  
- Bul. 258.  
Temple 5. Belton, Lone Star, etc. - 33d Rpt., p. 54, Bul. 215.  
Spur 7. Mebane (Triumph) - Bul. 288  
Lubbock 8. Burnet, Mebane, Lone Star - Bul. 219; 33d Rpt., p. 59.  
Pecos 9. Durango, Snowflake, Lone Star, Acala -  
- 33d Rpt., p. 61.  
Nacogdoches 11. Acala, Roundnose, Mebane, Lone Star -  
- Bul. 237, 254; 33d Rpt., p. 63.





Suggestions for securing greater uniformity of action in the production of cotton under Boll Weevil conditions.

The larger part of the area devoted to cotton production yields one-third bale per acre or less. Unless means can be devised of controlling boll weevil and of making cotton profitable on these areas it will take years to readjust to other products and markets. During this period there will be great economic distress and human suffering, and other countries are apt to produce cotton more cheaply than the United States, thus endangering our place in cotton production.

Because of differences in the climatic and economic conditions of the various cotton producing states, we suggest that experiments and studies be made in each state in cooperation with the United States Department of Agriculture along the following lines:

#### I. CULTURAL:

1. Quick Maturing varieties.
2. Such preparation of land as will induce earliest possible development of plants, including amount of seed and spacing to secure good stands.
3. Relation of stand and development of cotton to the crop immediately preceding it.
4. Composition, amounts, time, and manner of application of fertilizers that will induce early development and good yield.
5. Tillage directly applicable to conditions in each soil area to induce early maturity.
6. Limit the acreage only to the extent necessary in the above program.
7. To insure ample provision for food and feed crops for the farm.
8. A comprehensive study of crops and markets that may lead to suitable substitutes for cotton in the general farm scheme.

#### II. REMEDIAL:

1. Definite experiments in the use of poisons and methods of poisoning.
2. Picking of weevils and of punctured squares.
3. Proper spacing of plants for destruction of weevils by the sun.
4. Early picking of crop and immediate destruction of stalks.
5. Cleaning up of hibernating areas as far as possible.





### III. BIOLOGICAL:

1. Studies in hibernation and emergence of weevil.
2. Studies in time and extent of dispersion.
3. Studies in the adaption of the weevil to severe climatic conditions, especially on northern border of the cotton areas.
4. Possibility of extension of cotton area into more northern and western regions.
5. A more complete study of the life history of the cotton plant, especially as related to boll weevil control.
6. Interrelation of cotton insects.
7. Relation of cotton diseases to economic production and boll weevil control.
8. A study of plant life infesting cotton, especially as affected by poisons for boll weevil.

### IV. CHEMICAL and MECHANICAL:

1. Investigation of sources of poison supplies and commercial distribution.
2. Investigation in the chemistry of the cotton plant to determine the element or compound most attractive to weevil.
3. Improve mechanical appliances for use of poisons.

NOTE: There should be a common system of standardizing experiments in all matters related to boll weevil investigations in order that there be uniform interpretation of results.



III. BIOLOGICAL:

1. Studies in distribution and abundance of weevil.
2. Studies on life and habits of weevil.
3. Studies on the biology of the weevil as vector of plant diseases.
4. Studies on the biology of weevil as vector of plant diseases.
5. A more complete study of the biology of the weevil.
6. Investigation of weevil damage to crops.
7. Investigation of weevil damage to economic products.
8. Weevil control.
9. A study of plant life infested with weevil, especially as it applies to weevil for silk weevil.

IV. CONTROL AND RESISTANCE:

1. Investigation of causes of weevil infestation and control.
2. Investigation of the biology of the weevil plant.
3. Investigation of the biology of the weevil plant.
4. Investigation of the biology of the weevil plant.
5. Investigation of the biology of the weevil plant.

NOTE: These studies are to be done in cooperation with the Department of Agriculture and the Department of Health.